

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER KC-0189
		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 10/593777
INTERNATIONAL APPLICATION NO. PCT/GB2005/001172	INTERNATIONAL FILING DATE 21 March 2005	PRIORITY DATE CLAIMED 24 March 2004
TITLE OF INVENTION IMPROVED MODE SELECTION AND FREQUENCY TUNING OF A LASER CAVITY		
APPLICANT(S) FOR DO/EO/US Richard H. ABRAM; Kyle S. GARDNER and Erling RIIS		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input type="checkbox"/> The US has been elected (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US) 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)). <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under Article 19 (35 U.S.C. 371(c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). 		
Items 11 to 20 below concern document(s) or information included:		
<ol style="list-style-type: none"> 11. <input type="checkbox"/> An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98. 12. <input type="checkbox"/> An Assignment Document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A Preliminary Amendment. 14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76. 15. <input type="checkbox"/> A substitute Specification. 16. <input type="checkbox"/> A Power of Attorney and/or change of address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821-1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 		

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION (If known, see 37 CFR 1.55) 10/593777	INTERNATIONAL APPLICATION PCT/GB2005/001172	ATTORNEY'S DOCKET NO. KC-0189																																																																										
20. <input checked="" type="checkbox"/> Other items or information PCT Request Form International Search Report Authorization																																																																												
The following fees have been submitted:		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Calculations</th> <th style="width: 40%;">PTO Use Only</th> </tr> </thead> <tbody> <tr> <td>21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....\$300.00</td> <td style="text-align: center;">\$300</td> </tr> <tr> <td>22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c))</td> <td style="text-align: center;">\$200</td> </tr> <tr> <td colspan="2"> If the written opinion prepared by IDS/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provision of PCT Article 33(1)-(4)\$0 All other situations.....\$200.00 </td> </tr> <tr> <td>23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b))</td> <td style="text-align: center;">\$400</td> </tr> <tr> <td colspan="2"> If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provision of PCT Article 33(1)-(4)\$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....\$300.00 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....\$400.00 All other situations.....\$500.00 </td> </tr> <tr> <td>TOTAL OF 21, 22, and 23 =</td> <td style="text-align: center;">\$900</td> </tr> <tr> <td colspan="2"> <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250.00 for each additional 50 sheets of paper or fraction thereof. </td> </tr> <tr> <td> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Total Sheets</th> <th style="width: 15%;">Extra Sheets</th> <th style="width: 35%;">Number of each additional 50 or fraction thereof (round up to a whole number)</th> <th style="width: 35%;">RATE</th> </tr> </thead> <tbody> <tr> <td>- 100 =</td> <td>/50 =</td> <td></td> <td>x \$250.00</td> </tr> </tbody> </table> </td> <td></td> </tr> <tr> <td colspan="2"> Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration later than 30 months after the date of commencement of the national stage (37 CFR 1.492(h)). </td> <td></td> </tr> <tr> <td> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">CLAIMS</th> <th style="width: 20%;">NUMBER FILED</th> <th style="width: 20%;">NUMBER EXTRA</th> <th style="width: 40%;">RATE</th> </tr> </thead> <tbody> <tr> <td>Total Claims</td> <td>19 - 20 =</td> <td>0</td> <td>x \$50.00</td> </tr> <tr> <td>Independent Claims</td> <td>2 - 3 =</td> <td>0</td> <td>x \$200.00</td> </tr> <tr> <td colspan="3">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td>+ \$360.00</td> </tr> </tbody> </table> </td> <td></td> </tr> <tr> <td colspan="2" style="text-align: right;">TOTAL OF ABOVE CALCULATIONS =</td> <td></td> </tr> <tr> <td colspan="2"> <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. </td> <td style="text-align: center;">450</td> </tr> <tr> <td colspan="2" style="text-align: right;">SUBTOTAL =</td> <td></td> </tr> <tr> <td colspan="2"> Processing fee of \$130.00 for furnishing the English language translation later than 30 months from the earliest priority date (37 CFR 1.492(f)) </td> <td></td> </tr> <tr> <td colspan="2" style="text-align: right;">TOTAL NATIONAL FEE =</td> <td style="text-align: center;">450</td> </tr> <tr> <td colspan="2"> Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) \$40.00 per property </td> <td></td> </tr> <tr> <td colspan="2" style="text-align: right;">TOTAL FEES ENCLOSED =</td> <td style="text-align: center;">\$450</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Amount to be refunded: \$</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Amount to be charged: \$</td> </tr> </tbody></table>	Calculations	PTO Use Only	21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....\$300.00	\$300	22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c))	\$200	If the written opinion prepared by IDS/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provision of PCT Article 33(1)-(4)\$0 All other situations.....\$200.00		23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b))	\$400	If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provision of PCT Article 33(1)-(4)\$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....\$300.00 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....\$400.00 All other situations.....\$500.00		TOTAL OF 21, 22, and 23 =	\$900	<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250.00 for each additional 50 sheets of paper or fraction thereof.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Total Sheets</th> <th style="width: 15%;">Extra Sheets</th> <th style="width: 35%;">Number of each additional 50 or fraction thereof (round up to a whole number)</th> <th style="width: 35%;">RATE</th> </tr> </thead> <tbody> <tr> <td>- 100 =</td> <td>/50 =</td> <td></td> <td>x \$250.00</td> </tr> </tbody> </table>	Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE	- 100 =	/50 =		x \$250.00		Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration later than 30 months after the date of commencement of the national stage (37 CFR 1.492(h)).			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">CLAIMS</th> <th style="width: 20%;">NUMBER FILED</th> <th style="width: 20%;">NUMBER EXTRA</th> <th style="width: 40%;">RATE</th> </tr> </thead> <tbody> <tr> <td>Total Claims</td> <td>19 - 20 =</td> <td>0</td> <td>x \$50.00</td> </tr> <tr> <td>Independent Claims</td> <td>2 - 3 =</td> <td>0</td> <td>x \$200.00</td> </tr> <tr> <td colspan="3">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td>+ \$360.00</td> </tr> </tbody> </table>	CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	Total Claims	19 - 20 =	0	x \$50.00	Independent Claims	2 - 3 =	0	x \$200.00	MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360.00		TOTAL OF ABOVE CALCULATIONS =			<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.		450	SUBTOTAL =			Processing fee of \$130.00 for furnishing the English language translation later than 30 months from the earliest priority date (37 CFR 1.492(f))			TOTAL NATIONAL FEE =		450	Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) \$40.00 per property			TOTAL FEES ENCLOSED =		\$450			Amount to be refunded: \$			Amount to be charged: \$
Calculations	PTO Use Only																																																																											
21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....\$300.00	\$300																																																																											
22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c))	\$200																																																																											
If the written opinion prepared by IDS/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provision of PCT Article 33(1)-(4)\$0 All other situations.....\$200.00																																																																												
23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b))	\$400																																																																											
If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provision of PCT Article 33(1)-(4)\$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....\$300.00 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....\$400.00 All other situations.....\$500.00																																																																												
TOTAL OF 21, 22, and 23 =	\$900																																																																											
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250.00 for each additional 50 sheets of paper or fraction thereof.																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Total Sheets</th> <th style="width: 15%;">Extra Sheets</th> <th style="width: 35%;">Number of each additional 50 or fraction thereof (round up to a whole number)</th> <th style="width: 35%;">RATE</th> </tr> </thead> <tbody> <tr> <td>- 100 =</td> <td>/50 =</td> <td></td> <td>x \$250.00</td> </tr> </tbody> </table>	Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE	- 100 =	/50 =		x \$250.00																																																																				
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE																																																																									
- 100 =	/50 =		x \$250.00																																																																									
Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration later than 30 months after the date of commencement of the national stage (37 CFR 1.492(h)).																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">CLAIMS</th> <th style="width: 20%;">NUMBER FILED</th> <th style="width: 20%;">NUMBER EXTRA</th> <th style="width: 40%;">RATE</th> </tr> </thead> <tbody> <tr> <td>Total Claims</td> <td>19 - 20 =</td> <td>0</td> <td>x \$50.00</td> </tr> <tr> <td>Independent Claims</td> <td>2 - 3 =</td> <td>0</td> <td>x \$200.00</td> </tr> <tr> <td colspan="3">MULTIPLE DEPENDENT CLAIM(S) (if applicable)</td> <td>+ \$360.00</td> </tr> </tbody> </table>	CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	Total Claims	19 - 20 =	0	x \$50.00	Independent Claims	2 - 3 =	0	x \$200.00	MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360.00																																																												
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE																																																																									
Total Claims	19 - 20 =	0	x \$50.00																																																																									
Independent Claims	2 - 3 =	0	x \$200.00																																																																									
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360.00																																																																									
TOTAL OF ABOVE CALCULATIONS =																																																																												
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.		450																																																																										
SUBTOTAL =																																																																												
Processing fee of \$130.00 for furnishing the English language translation later than 30 months from the earliest priority date (37 CFR 1.492(f))																																																																												
TOTAL NATIONAL FEE =		450																																																																										
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) \$40.00 per property																																																																												
TOTAL FEES ENCLOSED =		\$450																																																																										
		Amount to be refunded: \$																																																																										
		Amount to be charged: \$																																																																										

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

10/593777
IAP9 Rec'd PCT/PTO 22 SEP 2006

PTO-1390 (Rev. 07-2005)

Approved for use through 3/31/2007. OMB 0651-0021

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

- a. ☐ A check in the amount of \$_____ to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. _____ in the amount of \$_____ to cover the above fees.
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to
Deposit Account No. 16-0607. A duplicate copy of this sheet is enclosed.
- d. ☒ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information
should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b) must be filed
and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

CUSTOMER NO. 34610

September 22, 2006

FLESHNER & KIM, LLP
P.O. Box 221200
Chantilly, Virginia 22151-1200
USA

SIGNATURE

JOHN C. EISENHART
REGISTRATION NO. 38,128